Abstract

The present invention relates to diffuser sheets for LCD applications encompassing at least one light-scattering polymethyl methacrylate layer which comprises a polymethyl methacrylate matrix and also from 0.5 to 59.5% by weight, based on the weight of the light-scattering polymethyl methacrylate layer, of spherical scattering particles (A) whose median size V_{50} is in the range from 0.1 to 40 µm, and whose refractive index differs from that of the polymethyl methacrylate matrix by a value in the range from 0.02 to 0.2, and from 0.5 to 59.5% by weight, based on the weight of the light-scattering polymethyl methacrylate layer, of spherical particles (B) whose median size V_{50} is in the range from 10 to 150 µm and whose refractive index differs from that of the polymethyl methacrylate matrix by a value in the range from 0 to 0.2, where the total concentration of the spherical scattering particles (A) and particles (B) is in the range from 1 to 60% by weight, based on the weight of the light-scattering polymethyl methacrylate layer, and the spherical scattering particles (A) and spherical particles (B) have a different median particle size V_{50}, where the transmittance of the diffuser sheets is in the range from 20 to 70% and their scattering power is greater than 0.3, where the ratio of the square of average surface roughness of the polymethyl methacrylate layer R_z to the third power of the size of the spherical particles (B) R_z^2/D_{PB}^3 is in the range from 0.0002 to 0.1300 μm^{-1}.